

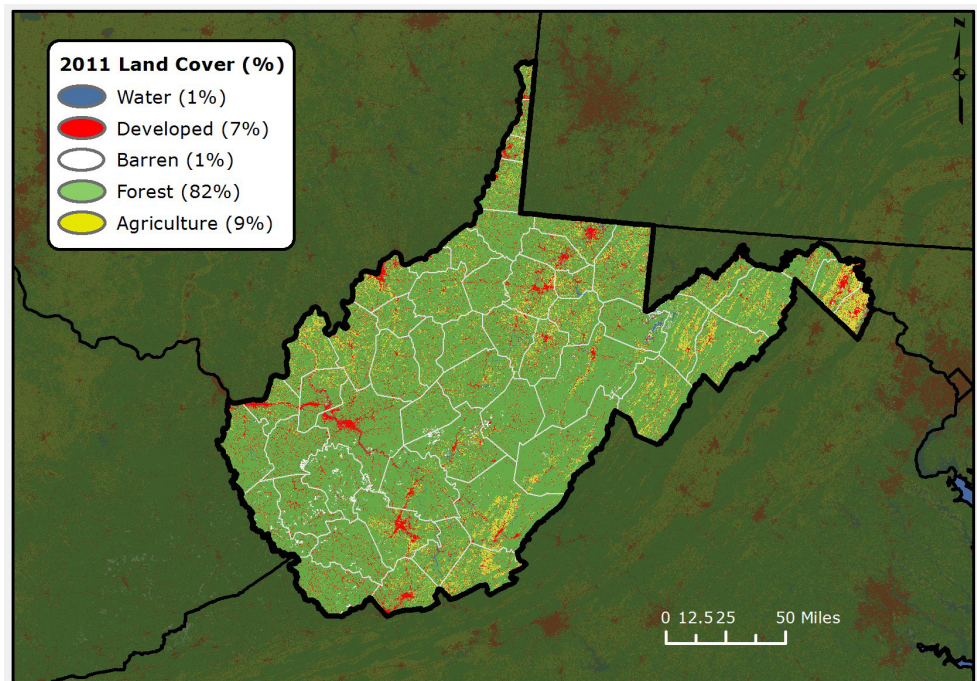
# 2014 Forest Health

## WEST VIRGINIA *highlights*

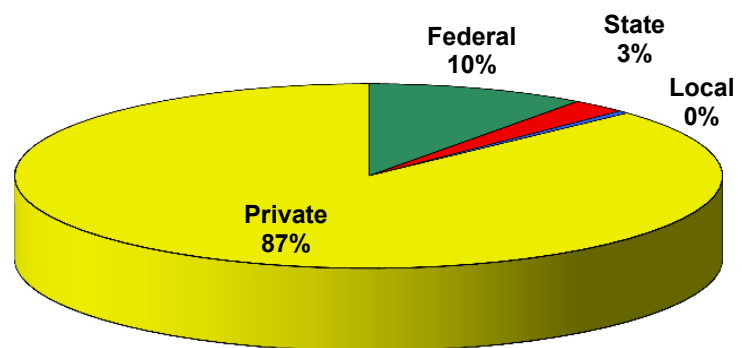


### Forest Resource Summary

The West Virginia landscape is dominated by more than 11.8 million acres of forest. Due in large part to its varied topography, the forest is a rich diversity of oaks, hickories, spruce, pines, and the WV State Tree—sugar maple. Eighty-seven percent of all forests in West Virginia are privately owned, but there are 9 State Forests, 36 State Parks, and 56 Wildlife Management Areas that provide public enjoyment.



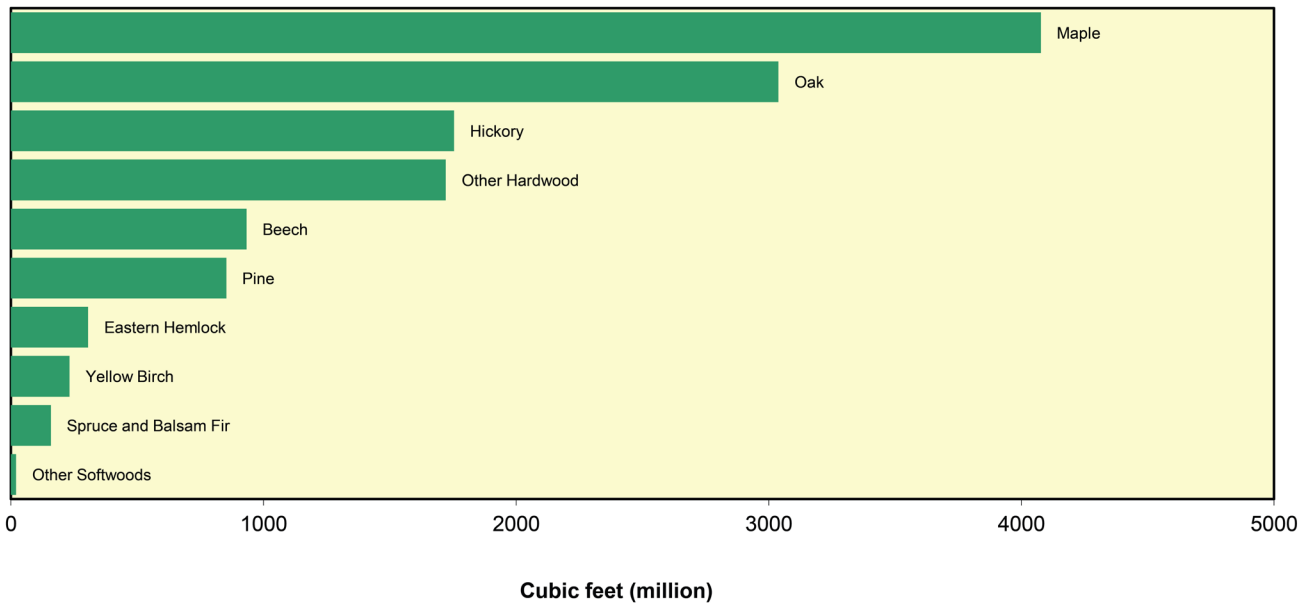
### Forest Land Ownership in West Virginia, 2012



### Forest Health Programs

State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.

**Net Volume of Growing Stock on  
Timberland by Species in West Virginia, 2012**



## Forest Stewardship

The West Virginia Division of Forestry administers the Forest Management Program. The intent of the program is to help private, nonindustrial forest landowners improve their forests by managing them in a sound, scientific manner. Within this program, the Forest Stewardship Program offers a forest management plan written by a professional forester based on the landowner's objectives. Other programs (EQIP, CREP) provide financial assistance for recreation, forest improvement, soil and water protection, wetlands protection, fisheries habitat enhancement, wildlife habitat enhancement, tree planting, and forest road improvement. In FY 2014, 105 stewardship plans were completed on a total of 10,685 acres. Currently, 203,810 acres are managed under stewardship plans.

## Special Issues—Gypsy Moth

### Gypsy Moth Programs

The objectives of the West Virginia Department of Agriculture (WVDA) Gypsy Moth Program are to continue to minimize

the adverse impact of gypsy moth on forest resources, preserve aesthetic values, protect people from the annoyance and health problems that can occur when in contact with large numbers of gypsy moth caterpillars, and slow the spread of gypsy moth by reducing populations on the advancing front.

### Gypsy Moth Population

West Virginia's gypsy moth population in 2014 is low in most areas of the State. The population is increasing in the east and central areas. The fungus *Entomophaga maimaiga* caused a moderate collapse in the building gypsy moth population of West Virginia in some areas, but population densities above treatment thresholds have been observed in Grant, Hardy, Nicholas, Pendleton, and Pocahontas Counties. Gypsy moth defoliated a total of 12,111 acres in 2014. Potential defoliating populations for 2015 are expected in the eastern portion of the State.

## Forest Health Protection Programs

### Diseases

#### **Beech Bark Scale Resistant Assays on the Monongahela National Forest**

In the summer of 2012, Monongahela National Forest (MNF) personnel located putatively resistant American beech trees across the Forest in areas where either the scale and disease are currently causing decline and mortality (killing zone) or have passed through (aftermath zone). To focus the search for resistant trees, stand data maps were created showing stands with the highest beech basal areas. Personnel surveyed as many of these stands with a high beech component as possible. Beech trees that were greater than 9 inches d.b.h. and had no beech scale present were considered fully resistant and permanently located using GPS coordinates and flagging. Approximately 120 resistant beech trees have been identified thus far on the MNF. A shapefile and maps were created to help locate the trees in the future.

In 2014, WVDA staff located approximately half of the 120 trees and conducted 61 scale challenges of the putatively resistant trees plus susceptible control trees (page 5).

#### **White Pine Monitoring**

The objective of this effort is to monitor changes in live versus dead volume in white pine due to the presence of a *Matsucoccus* scale/*Caliciopsis* canker complex and other secondary pathogens. White pines in four 1/10-acre plots were monitored for a third year since there was enough live and dead volume of white pine to compare with last year. There wouldn't be too many changes in the data overall but still a good reason to continue to measure these various trends for several more years before concluding anything about this insect/disease complex.

This year's observations included a decrease in the number of "symptomatic trees" (i.e. flagged branches) and a continued decrease in the occurrence of fruiting bodies. It appears that the sapling/seedling cohort at the monitoring sites is in decline possibly because many of the sapling/seedling class trees that were recorded as "dead" last spring have fallen to decay and are no longer part of the forest inventory. There seems to be a minimal number of seedlings to replace those lost, but it was observed this year that a percentage of those seedlings have moved into the sapling age class. In the pole sized and mature classes, it appears that white pine volume is unchanged.

#### **Walnut Twig Beetle Trapping**

Spring and fall trapping for the walnut twig beetle, the vector of thousand cankers disease, was completed and samples were screened. Forty-six traps were set and were monitored for 4 weeks in the spring and for 3 weeks in the fall; they were focused around wood product industries, campgrounds, and parks. Traps were serviced every 1 to 2 weeks depending on the amount of rain that fell during the trapping period. Samples were processed and screened by the Forest Pathologist and the Cooperative Forest Health Protection Specialist with the West Virginia Department of Agriculture. Samples screened to date are negative for the walnut twig beetle.

### Insects

#### **Hemlock Woolly Adelgid (HWA)**

With new detections in Marshall and Pleasants Counties, HWA can now be found in 48 West Virginia counties. WVDA personnel continued to treat high-value and high-visibility infested hemlocks by injecting imidacloprid into the soil or trunk or by inserting CoreTect tablets into the soil. Three hundred seventy-six trees were treated at nine private sites in our landowner cooperative program. Fall treatments were ongoing at the time of this writing (page 6).

In 2014, the West Virginia Department of Agriculture released 500 *Laricobius osakensis* beetles in Coopers Rock State Forest. Previous release sites of *L. nigrinus* have not yet been monitored for predator survival and impact on HWA.

### **Loopers**

Fall cankerworm (*Alsophila pometaria*) outbreaks tend to collapse after 2 or 3 years due to the impact of several natural factors, including disease and predation by birds and other insects. However, populations in eastern Jefferson County have been building the last two seasons, and a more widespread West Virginia outbreak occurred in eastern Jefferson County this year from around Harpers Ferry to the Shannondale area.

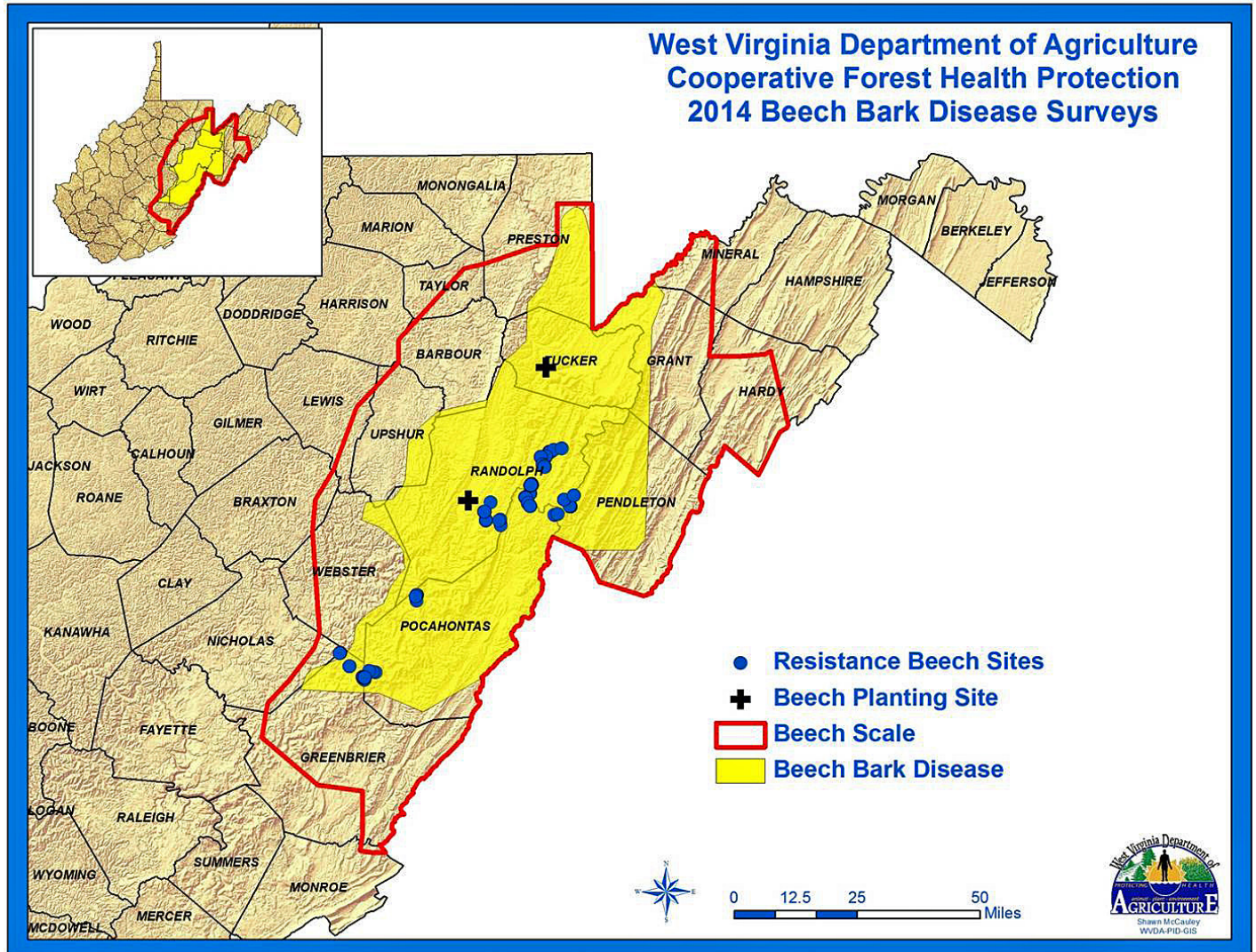
### **Emerald Ash Borer (EAB)**

With new detections in Hardy, Jackson, Logan, Mason, McDowell, Ohio, Pleasants, Wood, and Wyoming Counties, EAB has been found in 37 counties in West Virginia. In 2014, APHIS continued parasitoid releases. Results of previous releases are still pending (page 7).

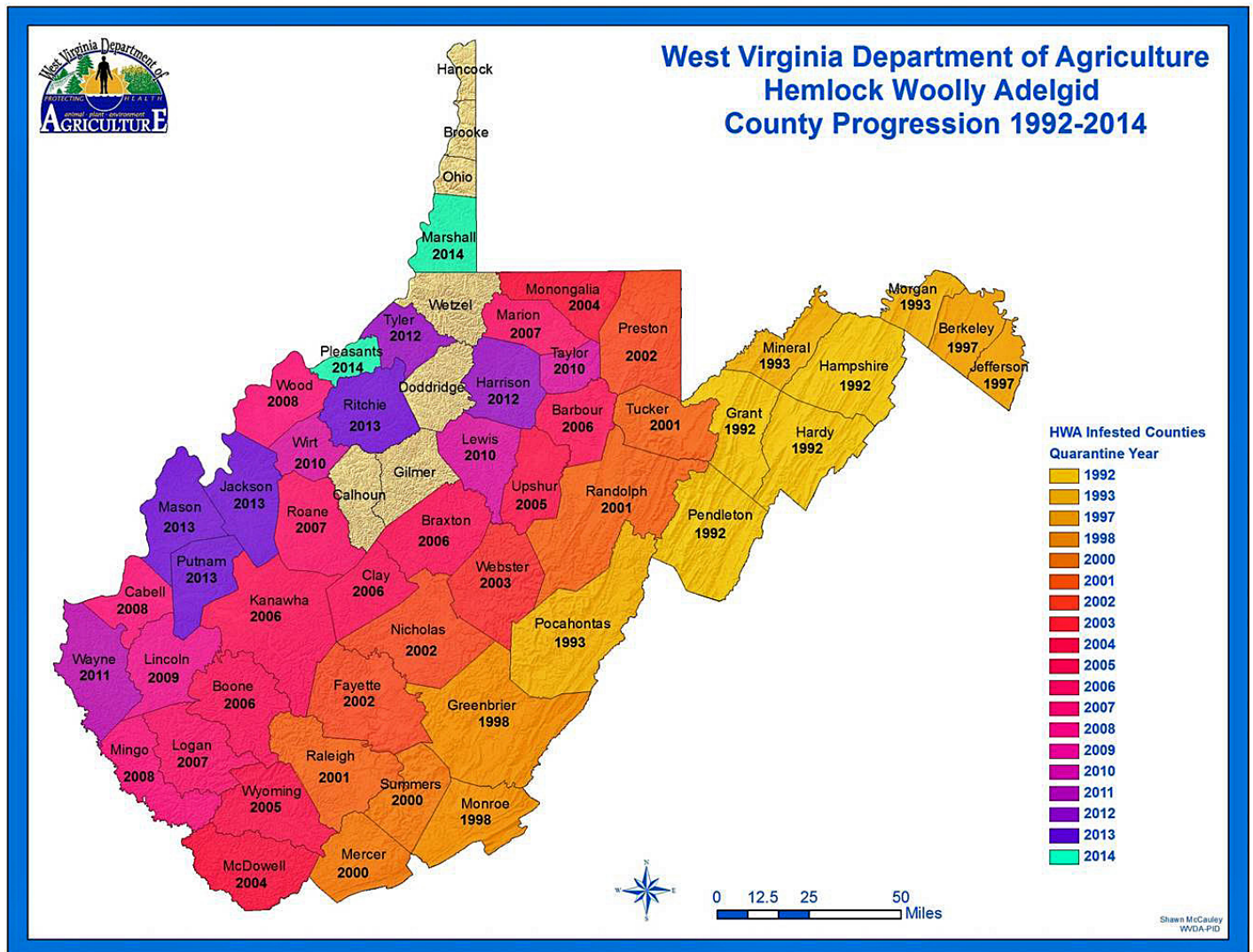
### **Forest Fire**

Wildfire suppression is one of the most important activities of the West Virginia Division of Forestry. In FY 2014, Division of Forestry personnel and volunteers fought 944 wildfires that burned 15,988 acres. These fires caused \$4.8 million in damage to the natural resources of West Virginia and over \$176,700 in personal property loss. The number of fires and acreage burned were about equivalent to the 10-year average. The leading cause of wildfires continues to be debris burning, which resulted in 401 wildfires that burned 3,159 acres. This was 42 percent of the total number of wildfires. Arson was the second leading cause of wildfires and burned the most acreage. There were 206 wildfires caused by arson (22 percent of the total number), which burned 8,201 acres (51 percent of the total).



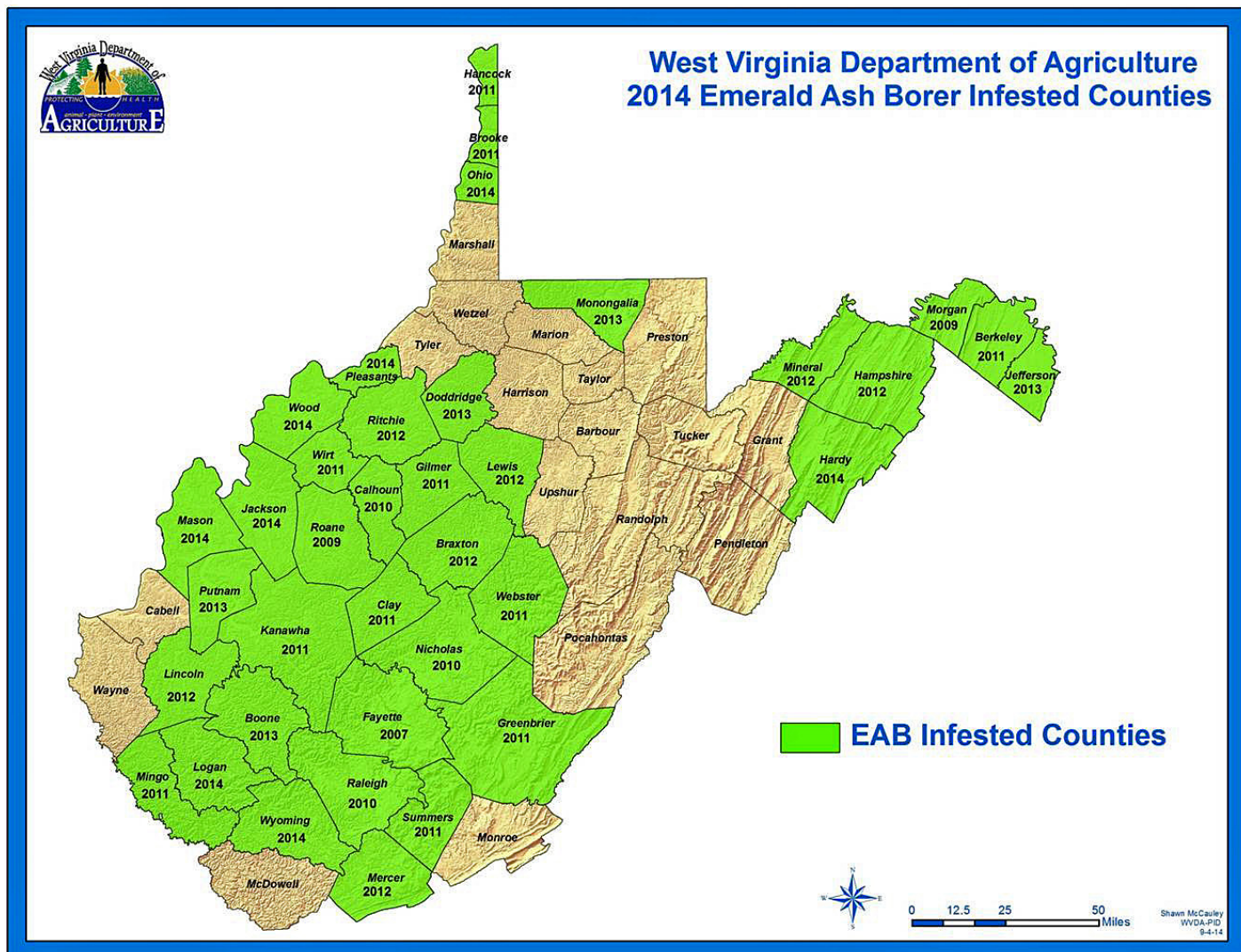


*West Virginia Department of Agriculture Cooperative Forest Health Protection 2014 Beech Bark Disease Surveys.*



West Virginia Department of Agriculture Hemlock Woolly Adelgid County Progression 1992-2014.





West Virginia Department of Agriculture 2014 Emerald Ash Borer Infested Counties.

## References

### Land Cover Map:

Jin, S.; Yang, L.; Danielson, P.; Homer, C.; Fry, J.; Xian, G. 2013. A comprehensive change detection method for updating the National Land Cover Database to circa 2011. *Remote Sensing of Environment*. 132: 159–175.

### Forest Land Area by Ownership:

Oswalt, Sonja N.; Smith, W. Brad; Miles, Patrick D.; Pugh, Scott A. 2014. Forest resources of the United States, 2012: a technical document supporting the Forest Service 2015 update of the RPA Assessment. Gen. Tech. Rep. WO-91. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. Table 2.

### Net Volume of Growing Stock on Timberland by Species:

Oswalt, Sonja N.; Smith, W. Brad; Miles, Patrick D.; Pugh, Scott A. 2014. Forest resources of the United States, 2012: a technical document supporting the Forest Service 2015 update of the RPA Assessment. Gen. Tech. Rep. WO-91. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. Table 23 & 24.



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February 2015